

Date: Tue, 8 Mar 94 04:30:39 PST
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #54
To: Ham-Homebrew

Ham-Homebrew Digest Tue, 8 Mar 94 Volume 94 : Issue 54

Today's Topics:

 DSP filtering for data communications
 Using switcher PS for 12 volt HF rig power?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 8 Mar 1994 00:44:33 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!news.moneng.mei.com!uwm.edu!
reuter.cse.ogi.edu!flop.ENGR.ORST.EDU!gaia.ucs.orst.edu!frl.orst.edu!
forrerj@network.ucsd.edu
Subject: DSP filtering for data communications
To: ham-homebrew@ucsd.edu

In article <44@paradox.win.net> bon@paradox.win.net (Joaquin Bonilla) writes:
>Path: gaia.ucs.orst.edu!flop.ENGR.ORST.EDU!reuter.cse.ogi.edu!uwm.edu!caen!
malgudi.oar.net!witch!paradox!bon
>Newsgroups: rec.radio.amateur.homebrew
>Message-ID: <44@paradox.win.net>
>Reply-To: bon@paradox.win.net (Joaquin Bonilla)
>From: bon@paradox.win.net (Joaquin Bonilla)
>Date: Mon, 07 Mar 1994 18:42:12 GMT
>Subject: DSP filtering for data communications
>Lines: 37
>I am trying to work out a DSP filter applied to ham radio data
>communications (Amtor, RTTY, Pactor and Packect modes).
>I am considering the following performances :
>

>- AMTOR/NAVTEX: FIR Band-pass filter with 60dB att. at 60Hz out of
>the corner freq, center freq at 2210Hz, bandwidth of 300Hz (corner
> freq. at 2260Hz-2360Hz)
>
>- HF Packet: Two different band-pass filter could be selected:
> *[2310-2110 mark-space]: BP , 60dB att, center freq. at 2210Hz,
> bandwidth of 900Hz, (corner freq. at 1760-2660Hz).
> *[1445-1275 mark-space]: BP, 60dB att., center freq. at 1360Hz,
> bandwidth of 900Hz (corner freq. at 1810-1725Hz)
>
>- RTTY: Multiple FIR band-pass filters, 60dB att., bandwidths of
> 135,150,180,225,300, 600 and 900Hz. Central freq. at 1360, 1700,
> 2340, 2210 and 2550.
>
>- PACTOR: BP with 60dB att., center freq. at 2210, bandwidth of
> 600Hz (corner freq. at 1910-2510Hz).
>
>- BPSK Packet (A0-13): BP, 60dB, central freq. 1600Hz, bandwidths
>of 150, 200, 300, 600, 1200 and 2400Hz.
>The idea is to cover most of the formats supported by different TNC
>manufacturers.
>To calculate the effective bandwidth of the filter I used $B_{fsk} =$
> $3 \times \text{Bauds}$, $B_{psk} = 2 \times \text{Bauds}$ (required bandwidth of the channel).
>
>Questions:
>- Do you guys agree with these settings?
>- How calculate the group time delay for the used FIR filters
> (around 400 taps with a Kaiser window)
>- What would be the maximum delay allowed for AMTOR (i.e)
> operation?.
>- Any suggestion?..
>
> 73
>
>--
>Joaquin Bonilla Phone: (601)- 4692565
> 173 Oak Park Dr. Internet: bon@paradox.win.net
>Forest, MS 39074, USA Salud !

Joaquin,

Just a comment on the size of the filter and group delay: keep in mind that sampling frequency and filter order all plays part in this factor. I have found that with a sampling frequency of about 6kHz and a 80 tap FIR filter, there was an additional 7ms due to the DSP filter in addition to what my analog front-end already introduced. This is no bit deal for local QSO's on Amtor, but it may introduce timing errors on that very distant DX QSO.

Good luck with your project.

Johan Forrer
KC7WW

Date: Tue, 8 Mar 1994 02:10:22 GMT
From: ihnp4.ucsd.edu!sdd.hp.com!col.hp.com!srigenprp!alanb@network.ucsd.edu
Subject: Using switcher PS for 12 volt HF rig power?
To: ham-homebrew@ucsd.edu

Don Montgomery (donrm@sr.hp.com) wrote:
: Hank Riley (au156@yfn.ysu.edu) wrote:

: > Has anyone ever tried to use a switching type power supply to handle

: Yes, my entire HF station (minus the 30L1 linear) runs off a 12VDC/88Amp
: Lambda switching supply, ...

: Everything runs off this supply including the RV 12VDC desk lamp, 2M
: FM rig and its 100W amp.

You left out the beer cooler. What, no Peltier devices?

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End of Ham-Homebrew Digest V94 #54
